03060101-050

(Little River/Lake Keowee)

General Description

Watershed 03060101-050 is located in Oconee County and consists primarily of the ***Little River*** and its tributaries as it flow through ***Lake Keowee***. The watershed occupies 104,984 acres of the Blue Ridge and Piedmont regions of South Carolina. The predominant soil types consist of an association of the Pacolet-Cecil-Hiwassee series. The erodibility of the soil (K) averages 0.24, and the slope of the terrain averages 19%, with a range of 2-80%. Land use/land cover in the watershed includes: 78.4% forested land, 8.6% agricultural land, 8.4% water, 3.4% urban land, 0.4% forested wetland, 0.1% nonforested wetland, and 0.7% barren land.

Burgess Creek (Long Branch) and Mill Creek join to form the North Fork Little River, which accepts drainage from Smeltzer Creek, Fiddlers Creek, and Barbeque Branch. Cherokee Creek accepts drainage from White Rock Creek (Bee Cave Creek, Wilson Creek, Pack Branch) and Townes Creek. Moody Creek (Cantrell Creek, White Oak Creek) flows through Cherokee Lake before joining Townes Creek (West Fork, Crane Creek, Wash Branch, Crossland Creek) in Lake Isaquenna (Jumping Branch). Townes Creek flows out of Lake Isaquenna and accepts drainage from Mud Creek before merging with Tamassee Creek (Horse Bone Branch) to form the Flat Shoals River. Flat Shoals River then accepts drainage from Reece Branch and Davey Branch before merging with the North Fork Little River to form the Little River.

Downstream of the confluence, the Little River accepts drainage from Oconee Creek (Alexander Creek, Station Creek), Yarborough Branch, Camp Bottom Branch, and Todd Branch before the river begins to impound into Lake Keowee. Beaman Branch enters the river next, followed by Neal Branch, Wilson Branch, Whetstone Creek, and Stamp Creek (Davis Branch, Cornhouse Creek). The river then accepts drainage from Long Branch, Barkshed Branch, Von Hollen Creek (Frenge Branch), Big Creek, and Crooked Creek (Cater Branch). Cane Creek (Walhalla Reservoir) accepts drainage from Browns Lake, Little Cane Creek (Beaty Creek, Williams Creek), and Dodgens Creek before flowing into the Little River near the base of the watershed.

Lake Keowee, divided between 03060101-030 (Keowee River) and this watershed, is connected through a narrow channel bisected by S.C. Hwy 130. Waters flowing through this connection flow out of the Keowee dam at the base of 030060101-030 and into the Keowee River in 03060101-040. The Little River Dam is located near the confluence with Cane Creek at the base of this watershed and discharges waters into a segment of the Little River, which flows into the Keowee River in 03060101-040. There are a total of 197.7 stream miles and 10,104.5 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
SV-684	BIO	FW	CRANE CREEK AT WINDING STAIRS RD
SV-743	BIO	FW	FLAT SHOALS RIVER AT S-37-129

SV-742	BIO	FW	OCONEE CREEK AT S-37-129
SV-203	S	FW	LITTLE RIVER AT S-37-24 7.1 MI NE OF WALHALLA
SV-312	P	FW	LAKE KEOWEE AT SC 188 – CROOKED CK ARM 4.5 MI N SENECA
SV-343	W/BIO	FW	LITTLE CANE CREEK AT S-37-133
SV-342	W/BIO	FW	CANE CREEK AT S-37-133
SV-311	P	FW	LAKE KEOWEE AT SC 188 – CANE CK ARM 3.5 MI NW SENECA

Crane Creek (SV-684) – Aquatic life uses are fully supported based on macroinvertebrate community data.

Flat Shoals River (SV-743) - Aquatic life uses are fully supported based on macroinvertebrate community data.

Oconee Creek (SV-742) - Aquatic life uses are fully supported based on macroinvertebrate community data.

Little River (SV-203) – Aquatic life uses are fully supported and a significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are fully supported.

Little Cane Creek (SV-343) - Aquatic life uses are fully supported based on macroinvertebrate community, physical, and chemical data. Recreational uses are not supported due to fecal coliform bacteria excursions.

Cane Creek (SV-342) - Aquatic life uses are fully supported based on macroinvertebrate community, physical, and chemical data. Recreational uses are not supported due to fecal coliform bacteria excursions.

Lake Keowee – There are two monitoring sites along Lake Keowee in this watershed. Recreational uses are fully supported and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter **at both sites**. Aquatic life uses are fully supported at the Crooked Creek arm site ***(SV-312)***; however, there is a significant decreasing trend in dissolved oxygen concentration and significant increasing trends in pH and total phosphorus concentration. Aquatic life uses are also fully supported at the Cane Creek arm site ***(SV-311),*** although there is a significant decreasing trend in dissolved oxygen concentration and a significant increasing trend in total phosphorus concentration. Significant decreasing trends for five-day biological oxygen demand, turbidity, and total nitrogen concentration suggest improving conditions for these parameters **at both sites**.

In an effort to suppress the growth of *Hydrilla* and to minimize its spread within the lake and adjacent public waters, and to minimize adverse impacts to water use activities, the lake was drawn down in the fall/winter and aquatic herbicides were applied in 1998 and planned for 2003.

NPDES Program

Active NPDES Facilities

RECEIVING STREAM *FACILITY NAME* *PERMITTED FLOW @ PIPE (MGD)*	*NPDES#* *TYPE* *COMMENT*
CANE CREEK TORRINGTON WWTP PIPE #: 001 FLOW: M/R	SCG250048 MINOR INDUSTRIAL
DAVEY BRANCH TAMASSEE DAR SCHOOL PIPE #: 001 FLOW: 0.031	SC0026727 MINOR DOMESTIC
LAKE KEOWEE KENDALL HEALTHCARE/SENECA PIPE #: 001 FLOW: M/R	SCG250067 MINOR INDUSTRIAL
LAKE KEOWEE LAKE KEOWEE UTIL. SYS., INC. PIPE #: 001 FLOW: 0.90	SC0022322 MINOR DOMESTIC
LAKE KEOWEE CITY OF SENECA WTP PIPE #: 001 FLOW: M/R	SCG641010 MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME *FACILITY TYPE*	*PERMIT #* *STATUS*
TORRINGTON COMPANY INDUSTRIAL	IWP-120 (SCD003344918) ----------
FLAT ROCK LANDCLEARING & YD FILL C &D	372664-1701 INACTIVE
NORTHWEST GRADING LANDCLEARING C & D	372614-1701 ACTIVE

Water Quantity

WATER USER *STREAM*	*TOTAL PUMP. CAPACITY (MGD)* *RATED PUMP. CAPACITY (MGD)*
CITY OF SENECA INTAKE LAKE KEOWEE	18.0 12.0

Growth Potential

There is a moderate potential for growth in this watershed, which contains the Town of Salem and portions of the Cities of Walhalla and Seneca. Salem and the shoreline of Lake Keowee are predicted for growth in the form of retirement communities. S.C. Hwy 130, running from Salem to Seneca, will be particularly prone to development. The Sumter National Forest extends across the upper portion of the watershed and would limit growth in that area.

Watershed Protection and Restoration Strategies

Special Projects

Formation of the Oconee-Pickens Clean Water Action (OPCWA) by the Friends Of Lake Keowee Society (FOLKS) – Midpoint Project Report

A 5-year, §319 grant from EPA was awarded to Friends Of Lake Keowee Society (FOLKS) in July 1999. The grant enabled the formation of Oconee-Pickens Clean Water Action (OPCWA), a partnership of conservation interests that includes Clemson University, S.C. Forestry Commission, USDA/NRCS, county governments, Duke Energy, and citizens of Oconee and Pickens Counties. FOLKS serves as the lead organization, providing project management, volunteer support, and partial funding. The objective of OPCWA is to improve impaired waterways in the Lake Keowee watershed, by reducing nonpoint sources of fecal coliform and metals. Education and public awareness regarding nonpoint sources were also targeted. At project start, the designated impairments included fecal coliform in Cane Creek, Little Cane Creek, and Little Eastatoe Creek and metals in Big Eastatoe Creek and parts of Lake Keowee.

The strategy for improvement was to first locate and prioritize pollution "hot spots" through rounds of water testing and land use survey; and then to bring best management practices (BMPs) to remediate the associated pollution sources. This is being done through a combination of educational outreach and cost sharing for BMP implementation. Pollution sources identified and targeted in the impaired areas included mine and marine wastes, unbuffered timber and livestock operations, waterside landscapes, and waterside communities on septic systems.